

Title (en)

MAGNETICALLY INSULATED COLD-CATHODE ELECTRON GUN

Title (de)

MAGNETISCH ISOLIERTE KALTKATHODEN-ELEKTRONENKANONE

Title (fr)

CANON À ÉLECTRONS À CATHODE FROIDE MAGNÉTIQUEMENT ISOLÉ

Publication

EP 2446456 A1 20120502 (EN)

Application

EP 10792529 A 20100615

Priority

- US 2010038715 W 20100615
- US 49025109 A 20090623

Abstract (en)

[origin: US2010320912A1] A system and method of magnetically insulating the cathode of a cold-cathode electron gun is achieved. A strong magnetic field is applied in the vicinity of the cold cathode to deflect and constrain the flow of electrons emitted from structures within the electron gun. The magnetic field largely prevents re-reflected primary and secondary electrons from reaching the cathode, thereby improving the operation and increasing the life of the cold-cathode electron gun. In addition, the insulating magnetic field improves electron beam focusing and enables a reduction in the magnitude of static electric focusing fields employed in the vicinity of the cold cathode, further reducing the electron gun's susceptibility to destructive arcing.

IPC 8 full level

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CPC (source: EP US)

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